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ABSTRACT

In this seven year longitudinal study predictors of achievement for first graders were measured against actual school achievement of the same students in the seventh and eight grades. Three sets of variables were obtained in the first grade. Achievement history, family environment, and mental health were used as measures. Mental health was assessed by teacher ratings of classroom adaptation and psychiatric symptoms of the students. Achievement history was identified by early school achievement and ability on standardized reading and intelligence tests. Semester grades were used to obtain information on total family income, mother's level of education and educational expectations for their children. Also, students were identified according to their sibling order. Five hundred seventy-one students from a poor black community participated in the study. In both seventh and eighth grades, all students were given the Iowa Tests of Basic Skills. A finding of this study was that first grade ability and achievement measures were the best predictors of achievement test scores at seventh and eight grades. In addition, family variables were found to be the second most powerful group of variables with mental health variables hardly predicting later achievement at all. Tables illustrating sex differences, achievement predictors, and a description of the predictor variables are included. (Author/JP)

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LONGITUDINAL PREDICTORS OF ACHIEVEMENT: ACHIEVEMENT HISTORY, FAMILY ENVIRONMENT, AND MENTAL HEALTH

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Abstract

With a sample of 571 youth from a poor black community, this study investigates the longitudinal predictive power to seventh and eighth grade achievement of three sets of variables obtained in first grade: achievement history, family environment, and mental health. Together these first grade measures account for 37% of the variance in achievement seven years later. Achievement history measures are the most powerful predictors with family enviornment about one-third as powerful as achievement history. First grade mental health is a poor predictor of later achievement in these data. Sex differences were found in the predictors of achievement with family environment relatively more important for boys, making a large independent contribution once achievement history is accounted for. Early mental health is relatively more important for girls than boys but is also almost totally confounded with achievement history for girls. The implications of these results for further research and for intervention are discussed.

The purpose of this study was to investigate, with a particular sample of subjects, the longitudinal predictive power to later school achievement of the three major sets of variables thought to be influential:[1] (1) early school achievement and ability, (2) early mental health as measured by two major constructs - social adaptational status and psychological well-being, and (3) home environment variables. Furthermore, this study addressed the question of the relative predictive power of these three sets of variables. Finally, sex differences in the prediction of achievement were examined.

Introduction

Learning what factors affect students' performance is one of the most basic and important goals of educational research. One factor clearly influencing ultimate school achievement is earlier achievement or achievement history which probably includes some component of inherited ability setting broad boundaries around achievement potential (Scarr-Salapatek, 1975). Bloom's (1964) important work indicating that the achievement course is set prior to the school years stimulated investigations of home environmental variables which enhanced or inhibited achievement potential. Many (e.g., Smith, 1968; Clausen, 1968) in the mental health field have considered school achievement to be an indication of competence, a measure of mental health, with poor psychological functioning frequently leading to incompetent performance. And finally, educators have assumed that what goes on in the school has some impact on what is achieved. This study focuses on the first three of these factors: achievement history, home environment,

[1]Some school variables were measured and investigated in a preliminary analysis. These are discussed briefly later.

and mental health. It is our assumption that these factors cannot be considered independent and all contribute to later achievement.

Many studies have demonstrated the relative stability of school achievement; that is, students who do well early in the school years tend to do well later in their school experience. Some studies, though fewer in number, have investigated the influence of various aspects of the home environment on school achievement (e.g., Dave, 1963); few of these studies, however, have examined the effect of early home environment on later school achievement. Similarly, there have been some studies examining the relationship of self-esteem or school behavior to school achievement; again, few studies have examined the relationship of early psychological variables to later school achievement. This study can augment our knowledge of longitudinal relationships among these variables.

Studies of concurrent relationships for home environment to school achievement have demonstrated that socioeconomic status and the number of children in the family are potent correlates of school achievement with higher SES and fewer children more favorable (Lavin, 1965; Walberg and Marjoribanks, 1976). Nuttall et al. (1976) found sex specific patterns in home environmental correlates of achievement. They found family size to be an important variable for boys and birth order to be in important variable for girls, both when IQ is controlled. Hanson (1975) found significant influence of various indices of parental concern and active involvement with their children on IQ during the preschool and elementary school years. Dave (1963) showed that student's perceptions of parental reinforcement for achievement were significantly related to achievement.

Few studies have been done with poor black children, the group of concern in this study. Mackie et al. (1974) found little influence of father's presence

or absence or father's involvement with his children on school achievement among poor black children at the kindergarten or first grade level. Greenberg and Davidson (1972) studied low and high achievers among a group of fifth grade poor black children. Among the factors they found significantly related to high versus low achievement were the structure and orderliness of the home, parental awareness of the child, parental concern for education, general social awareness among parents, and the rationality of discipline in the home. In addition parental occupation, education level of the parents, caretaking of the apartment and the number of days the child was absent from school also significantly differentiated the high versus low achievers. Variables which did not differentiate high versus low achievement among this group of children were the work status of the mother, the type of dwelling in which the family lived, whether or not the adult female in the home was the mother, whether or not the adult male in the home was the father, the number of children in the family, birth order, whether or not the child had attended nursery school or kindergarten, and the number of schools attended. It is interesting that many variables found important in other studies did not appear to be so with this particular sample. Whether the Greenberg and Davidson results are generalizable to all poor black children remains a question.

Studies of affective correlates of school achievement find that the addition of affective variables to ability measures can significantly improve the prediction of later achievement (e.g., Kahn, 1969). Included among the affective variables considered by Kahn (1969) were attitudes, study habits, need achievement and achievement anxiety. Lambert et al. (1976) found that noncognitive variables (including problems with inter-

personal relationships, responses that are inappropriate or immature, somatic responses to stressful situations, depressed or unhappy moods and difficulty applying oneself to school learning) not only add predictive power but also make a significant contribution to the prediction of later achievement in and of themselves. Lavin (1965), in his review of predictors of academic performance, concludes that six dimensions of personality or affective variables are important: (1) social maturity in the student role, (2) emotional stability, (3) achievement motivation, (4) cognitive style (e.g., curiosity, flexibility, originality), (5) conformance and (6) independence, with the latter two dimension being independent, alternative dimensions.

The Woodlawn Studies

The study reported here is a part of a larger follow-up study of a population of black youth all of whom were once first graders in the Woodlawn community, a black, poor neighborhood on the south side of Chicago. The original first grade population, the total population of first graders in the entire community, consisted of 1242 children. About 75 percent of the mothers of these children were reinterviewed 10 years later and over 50 percent of the original sample of youth have themselves been reassessed, even though these families have now dispersed all over the city.

The first grade study was conducted to determine the mental health of the community's children. Mental health was conceived of as a two-dimensional concept including psycnological well-being--an internal view of the individual's feelings and behavior as measured by psychiatric symptoms and self-esteem--and social adaptational status--the societal view of the individual's functioning in various social fields such as the school and home.

The latter dimension, social adaptational status, includes school achievement. The results of the investigations of four successive total populations of first graders in Woodlawn have been reported by Kellam et al. (1975) in the volume Mental Health and Going to School.

The Sample and Methods

The Sample. The results reported here are based on the sample of 571 children who had all of the various measures at first grade and achievement data at the seventh and eighth grades. Preliminary analyses for this study also included third grade measures but, since a substantial proportion of the first grade population lacked third grade data, the additional power gained by a second early measure was deemed less valuable than a larger sample size. This sample of 571 children is not significantly different from the larger sample of 1242 on any of the key variables of interest.

The First Grade Measures. Mental health was assessed three times during first grade. These assessments included teacher ratings of classroom adaptation (TOCA) and teacher ratings of psychiatric symptoms (TSI). TOCA measured the categories of lack of social contact or shyness, lack of authority acceptance or aggressive behavior, poor concentration, immaturity underachievement, and a global rating which was marked if any of the preceeding categories of behavior were present. This study uses the average of the global ratings across the three times of assessment. Similarly, the TSI score used here is the average of the global ratings made by teachers of eleven psychiatric symptoms (e.g., fearful, appearing sad or worried, has trouble with feelings, tense, nervous, immature, has speech problems).

Grades were obtained for both semesters. All grades except Conduct

(Reading, Oral Language, Handwriting, Social Science, Arithmetic and Science) were used to obtain an average grade across both semesters. Standardized test data were also available; these tests include the Kuhlmann- Anderson Intelligence test and the Metropolitan Readiness test.

Several measures were drawn from the extensive family interview conducted at the end of first grade. These measures include total family income, years of school completed by the mother, the mothers' hopes and expectations regarding the amount of education obtained by her child, and family type which is either a mother alone, a mother with others (e.g., grandmother, aunt, etc.) or a mother and father.[1]

All variables, their abbreviations in subsequent tables, and their values are shown in Table 1.

Junior High School Achievement. School achievement data were obtained from the Chicago Board of Education for the seventh and eighth grades. Later achievement scores are currently being obtained but are not now available for all subjects in the study. In both seventh and eighth grades all students were given the Iowa Tests of Basic Skills. In seventh grade all subtests (Vocabulary, Reading Comprehension, Mathematics Concepts, Mathematics Problem Solving, Language Skills, Work Study Skills) were administered; only the first four subtests listed were administered to eighth graders. In this study we are using the average of the subtest scores from both seventh and eighth grades.

[1]Families without a mother (e.g., foster parents, father with others) were excluded from these analyses. See Kellam et al. (1977) for a more extensive discussion of family type in the Woodlawn community.

Results

The analyses for these studies proceeded in two stages. In the first stage, not reported here, each of the three groups of variables were examined separately in terms of their predictive power on later school achievement.[1] In the second stage the best variables from each of the three groups were then compared to determine which set of variables was relatively best in predicting later school achievement. Finally, sex differences in the patterns of prediction were examined.

The correlations of the aptitude and achievement variables from first grade with seventh and eighth grade achievement range from 0.44 to 0.48. These correlations are higher than expected. Lavin (1965) reported that correlations between first grade IQ and grades in high school are only about 0.30. De Bottari (1969), as well as studies reviewed by Lavin (1965), find that correlations increase substantially after first grade, averaging about 0.65. In the analyses with third grade data, the analogous variables in third grade produced correlations with later achievement that were about 0.15 points higher for each variable than the correlations with first grade measures.

The correlations between the mental health variables and later achievement are substantially lower. Teacher ratings of low social adaptational status and lack of psychological well-being, respectively, produced correlations of -0.14 and -0.11. Ratings of psychological well-being made by mothers and clinicians, examined in the first stage of analysis, produced

[1]All of these multiple regression analyses investigated linear relationships. Quadratic terms and interaction terms must yet be examined.

even lower correlations.

Considering the family variables, mother's educational attainment had the highest correlation with later school achievement, 0.26. The size of the total family income was also relatively highly related with a correlation of 0.20. Both of these measures may be considered social economic status. Mother's greater hopes and expectations about the child's future educational attainment showed correlations of 0.15 and 0.18, respectively, with later achievement. Family type correlates 0.11 with later achievement.[1] In the preliminary analysis, we also examined the following variables: the frequency that anyone took the child out for a treat, the frequency with which the child was read to, whether or not the parent visited the school, and whether or not the parents found school meetings valuable; none of these variables showed correlations different from zero.

A series of school-related variables were also examined in earlier analyses using multivariate analyses of variance and were found to be unrelated to seventh and eighth grade achievement. These variables included whether or not the child had participated in a classroom group therapy intervention focused on school issues, whether or not the child had attended kindergarten, whether or not the child was relatively younger or older, and whether or not the child had attended the same or a different school the previous year.

[1]Family type is a categorical variable but, based on other analyses we know that families with both mother and father present in first grade have the highest achievement at seventh and eighth grade, followed by families with mother and at least one other adult, with mother alone families lowest in later achievement.

These three sets of first grade variables--achievement history, mental health, and family environment--were then analyzed in a multiple regression to determine their relative importance in predicting seventh and eighth grade achievement. Table 2 summarizes these analyses. The achievement history variables always account for the greatest percentage of the variance, no matter what their order in the equation. The percentage ranges from 25.4% to 33.6% when these variables are last versus first, respectively. The family variables are second in relative predictive power with the percentage of variance accounted for ranging from 3.3% to 10.4%. The mental health variables account for only 2.0% of the variance when they come first and 0.1% when they're last. All equations significantly predict later achievement and account for 37% of its variance.

The family and mental health sets of variables appear to be relatively independent with only 0.7% of the variance shared in predicting later achievement. The achievement/ability and family variables share about 7% of the variance in predicting achievement. The mental health variables share only 1.9% of the variance with the achievement/ability measures, only 0.1% less than the total contribution of the mental health measures.

Hence, while first grade achievement and ability measures appear to be the best predictors of junior high school achievement test performance, family measures are also of importance. First grade mental health, as measured in this study has only minimal predictive power to later achievement.

Sex Differences

Many studies (see Lavin, 1965) report sex differences in school achievement such that girls generally perform better than boys, at least through the high school years. Only a few studies (e.g., Nuttall et al., 1976) have

examined the correlates of achievement by sex.

Table 3 shows the means, standard deviations, and correlations of the various predictors of seventh and eighth grade achievement test scores by sex. Girls perform better on all ability and achievement measures, a typical sex difference (Maccoby and Jacklin, 1974). Girls also come from families with significantly higher income, mother's expectations for educational attainment, and are less likely to be in mother alone families. Boys are significantly lower in TOCA. The correlations between early achievement with later achievement are similar for boys and girls but IQ shows a significantly higher relationship to the later achievement of girls.[1] The latter result has also been found by others (e.g., see Lavin, 1965). Most of the family variables are more strongly related to later achievement for boys; mother's expectations for the child's educational attainment is significantly so.[2] The first grade mental health measures show higher correlations with later achievement for girls, though only significantly so for TOCA.

The sex differences observed above are, of course, also seen in the pattern of the sets of variables in the regression equations (see Table 4). The ability and achievement variables are similarly predictive for boys and girls. The family and mental health variables, however, show striking sex differences in their prediction of later achievement. The family variables

[1]The relationship of IQ to TOCA and TSI is also higher for girls than boys, significantly so with TOCA.

[2]Mother's hopes and expectations show significantly different correlations for boys (0.13) versus girls (0.47). The means show that mothers expect less of their sons.

are more predictive of later achievement for boys than for girls. The mental health variables are more predictive of later achievement for girls than for boys, though for girls achievement history subsumes mental health. Nevertheless, the order of relative predictive power observed in the sets of variables across sex is generally not altered by these sex differences. That is, the early achievement and ability variables rank first followed by the family variables with mental health the least predictive of later achievement.[1] Furthermore, the same amount of variance in later achievement is accounted for by these variables for both boys and girls.

Discussion

This study has shown that, with a sample of youth from a particular black, poor community, and with a particular set of variables, first grade ability and achievement measures are the best predictors of achievement test scores at seventh and eighth grades. Family variables are the second most powerful group of variables with mental health variables hardly predicting later achievement at all.

The sex differences are also interesting. Family variables, especially mother's expectations about the educational attainment of her child, are more important for boys than girls. These mothers expect lower educational attainment from sons than daughters and their expectations have more influence on the achievement of sons than daughters.

[1]The only exception to this observation is when mental health is entered first and the family variables entered last with girls; in this case the mental health variables account for more of the variance than the family variables.

Mental health is more powerfully related to the later achievement of girls than boys though, for girls, mental health is confounded with achievement history. Further investigations will attempt to clarify which mental health constructs are contributing to this difference.

These results, of course, may be generalizable only to the population studied. Furthermore, they may be restricted to the particular variables studied. It is possible, for example, that family size, birth order, and strictness of rules--all variables suggested by the literature and available to this study--would be more powerful family predictors than those tested. We do intend to study additional variables. Nevertheless, this investigation does tell us something about predicting achievement for youth in the Woodlawn community.

We should note that the times studied in this investigation, first grade and junior high school, are particularly unstable periods, both marking beginnings. Other studies (reviewed by Lavin, 1965) have found that data from first grade has been found less powerfully predictive of high school achievement than that from second and subsequent grades. Similarly, junior high school marks the beginning of a new school day structure and the beginning of adolescence, both stressful circumstances. Given this instability, we are surprised at the strength of predictive power over 7 years of these variables, they account for 37 percent of the variance in later school achievement. It will be interesting to compare these results with those obtained when high school achievement is the criterion. We shall also be able to add current home environment and mental health variables as predictors.

We also plan to study, in further investigations, the longitudinal course of the relation between school achievement and the other two sets of variables--family environment and mental health. Concurrent studies (e.g., Kellam et al., 1975; Kellam et al., 1977) have shown strong relationship between achievement and both family environment and mental health. In this study we found that the best longitudinal predictor of achievement is earlier achievement. In other words, success tends to lead to further success and failure tends to engender more failure. This result is not surprising. The relatively strong contribution of family environment variables, especially the SES--like measures, is also not surprising. But what happens to mental health over the course of schooling, especially in the presence of failure. Unpublished data from the larger follow-up study that first grade IQ is one of the strongest predictors of teenager's self-reports of psychological well-being. Underachievement, as rated by teachers in first grade, also is strongly related to low psychological well-being ten years later.

These results just mentioned together with the results from the present study showing no longitudinal relationship between early mental health and later achievement suggest that school failure may generate poor mental health or low psychological well-being. We intend to explore this hypothesis further.

What of the family environment variables? Mother's expectations for her child's educational attainment is also strongly related to teenager's self-reports of psychological well-being. Recall that mother's expectations were also strongly predictive of later achievement, at least for boys, hence family variables may also be important in generating both poor achievement and poor mental health. It is possible, however, that a mother's expectations for her child's educational attainment may be based on a realistic assessment of her child's potential.

While poor school achievement on the part of the child is unlikely to cause parental socioeconomic status to decline, it is likely that such performance will ensure low SES for the child, thus perpetuating the cycle. In this way school achievement may also influence family variables. Other paths of influence are also possible and we intend to investigate these.

Our results suggest that school achievement is a key component in development. It is influenced by achievement history and family environment but also itself influences these variables as well as mental health. Success in school, then, is important for the mental health of the developing child as well as his or her future success. Successful learning must begin early in the school years and depends on the support of the family as well as the school.

REFERENCES

Bloom, B.S. Stability and Change in Human Characteristics. New York: Wiley, 1964.

Dave', R.H. The identification and measurement of environmental process variables that are related to educational achievement. Unpublished Ph.D. dissertation, University of Chicago, 1963.

de Bottari, L. Primary school correlates of secondary school achievement. Personnel and Guidance Journal, 1969, 47, 675-678.

Greenberg, J.W. and Davidson, H.H. Home background and school achievement of black urban ghetto children. American Journal of Orthopsychiatry, 1972, 42, 803-810.

Hanson, R.A. Consistency and stability of home environmental measures related to IQ. Child Development, 1975, 46, 470-480.

Jackson, D.W. and Lahaderne, H.M. Scholastic success and attitude toward school in a population of sixth graders. Journal of Educational Psychology, 1967, 58, 15-18.

Kahn, S.B. Affective correlates of academic achievement. Journal of Educational Psychology, 1969, 60, 216-221.

Kellam, S.G., Branch, J., Agrawal, K.C., and Ensminger, M.E. Mental Health and Going to School. Chicago: University of Chicago Press, 1975.

Kellam, S.G., Ensminger, M.E., and Turner, R.J. Family Structure and the Mental Health of Children: Concurrent and Longitudinal Community-Wide Studies. Archieves of General Psychiatry, 1977, in press.

Lambert, N.M., Hartsough, C.S., and Zimmerman, I.L. The comparative predictive efficiency of intellectual and nonintellectual components of high school functioning. American Journal of Orthopsychiatry, 1976, 46, 109-122.

Lavin, D.E. The Prediction of Academic Performance. New York: Wiley, 1965.

Maccoby, E.E. and Jacklin, C.N. The Psychology of Sex Differences. Stanford: Stanford University Press, 1974.

Mackie, J.B., Lloyd, D.N. and Rafferty, F. The father's influence on the intellectual level of black ghetto children. American Journal of Public Health, 1974, 64, 615-616.

Nuttall, E.V., Nuttall, R.L., Polit, D., and Hunter, J.B. The effects of family size, birth order, sibling separation and crowding on the academic achievement of boys and girls. American Educational Research Journal, 1976, 13, 217-223.

Scarr-Salapatek, S. Genetics and the development of intelligence. Review of Child Development Research, 1975, 4, 1-57.

Walberg, H.J. and Marjoribanks, K. Family environment and cognitive development: Twelve analytic models. Review of Educational Research, 1976, 46, 527-551.

Table 1

Description of Predictor Variables

Abbreviation	Variable	Values
IQ	Kuhlmann-Anderson IQ	
MRT	Metropolitan Readiness Test	
GPA	Grade point average over both semesters of first grade	1 = excellent 2 = good 3 = fair 4 = unsatisfactory
MED	Last grade completed by mother	
INC	Family income	1 = $\leq$ \$2,000 2 = to \$2,999, etc; 10 $\geq$ \$10,000
EX	Mothers expectations for child's educational attainment	1 = some high school, 2 = finish high school, 3 = some college, 4 = finish college, 5 = beyond college
HO	Mother's hopes for child's educational attainment	
TYP	Family type	1 = mother alone, 2 = mother plus others, 3 = mother, father
TOCA	Teacher Ratings of Classroom Adaptation - average of 3 first grade global ratings	1 = adapting, 2 = mildly maladapting, 3 = moderately maladapting, 4 = severely maladapting
TSI	Teacher Symptom Inventory - average of 3 first grade global ratings	1 = not at all, 2 = a little, 3 = moderately, 4 = a great deal

Table 2

First Grade Predictors of Average Achievement Test Scores in Seventh and Eighth Grades[1]

Set[3]	Variable[4]	Std. Coef.	% Variance Accounted for Under Order[2]: 123	231	312	132	321	213
1	IQ	.24	22.8	17.1	21.4	22.8	17.1	17.9
Ach	MRT	.21	5.6	4.4	5.2	5.6	4.4	4.6
	GPA	-.23	5.2	3.9	5.1	5.2	3.9	4.0
2	MED	.12	2.2	6.9	2.2	2.2	6.7	6.9
Fam	INC	.12	0.7	2.1	0.7	0.7	1.8	2.1
	EX	.02	0.1	1.3	0.1	0.1	1.1	1.3
	HO	.01	0.0	0.1	0.0	0.0	0.1	0.1
	TYP	-.07	0.3	0.0	0.3	0.3	0.0	0.0
3	TOCA	.02	0.1	1.2	1.9	0.1	1.9	0.1
MH	TSI	.02	0.0	0.0	0.1	0.0	0.1	0.0

$R^2 = .37$ ($P < .0001$)

[1] $n = 571$

[2] Variables within sets were ordered according to the zero-order correlation with average seventh and eighth grade achievement. Variables contributing less than 0.6% are ns (P greater than .05).

[3] Sets are: Ach = ability and achievement scores, Fam = family variables, MH = mental health variables.

[4] These variables are described in Table 1.

Table 3

Sex Differences in the Predictors of Achievement

Variable[1]	Means (Std. Dev.)			Correlations with 7th and 8th Grade Achievement		
	M (n=272)	F (n=299)	Sig.[2]	M (n = 272)	F (n=299)	Sig.[2]
IQ	98.43(10.09)	99.83(10.31)	*	.42	.52	*
MRT	63.80(13.69)	65.90(13.49)	*	.46	.49	
GPA	2.45(0.51)	2.29(0.54)	***	-.45	-.42	
MED	10.64(2.10)	10.86(1.89)		.24	.28	
INC	4.55(2.68)	4.92(2.69)	*	.24	.16	
EX	2.83(1.05)	3.14(1.03)	***	.24	.09	*
HO	3.83(0.83)	3.90(0.80)		.18	.12	
TYP	1.99(0.93)	2.16(0.90)	*	.09	.10	
TOCA	1.77(0.76)	1.64(0.74)	*	-.04	-.21	*
TSI	1.43(0.68)	1.40(0.59)		-.06	-.15	
ACH 7&8	85.60(11.81)	88.50(12.02)	**			

[1] See Table 1 for descriptions of these variables.

[2] *p $\leq$ .05, **p $\leq$ .01, ***p $\leq$ .001.

Table 4

Sex Differences in the Predictors of Seventh and Eighth Grade Achievement[1]

Set[2]	Variable[3]	Std. Coef.		% Variance Accounted for when Set is:					
				First		After Ach		Last	
		M	F	M	F	M	F	M	F
Ach	IQ	.16	.31						
	MRT	.25	.17	31.8	34.6			25.4	24.4
	GPA	-.30	-.18						
Fam	MED	.08	.17						
	INC	.23	.02						
	EX	.05	-.03	12.3	9.6	15.4	2.8	5.2	2.9
	HO	.00	.02						
	TYP	-.13	.00						
MH	TOCA	.04	.00	0.4[4]	4.5	0.8[4]	0.1[4]	0.7[4]	0.1[4]
	TSI	.06	.02						
	R^2	.38	.38						

[1] n=272 for males, n=299 for females.

[2] Ach = achievement history, Fam = family environment, MH = mental health.

[3] See Table 1 for a description of these variables.

[4] These contributions are not significant (P greater than .05).

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